

What is claimed is:

1. A modular mezzanine connector system, comprising:
- (a) a plug assembly, comprising
- (a₁) a first common base comprising a plurality of fusible
- 5 elements which are each disposed within a pocket defined within the first common base;
- (a₂) a plug contact assembly mounted within the plug assembly comprising a plurality of plug contacts, each plug contact comprising an end which is secured to one of the fusible elements within one of the pockets of the first common base;
- 10 (a₃) a plug cover coupled to the first common base;
- (b) a receptacle assembly that mates with the plug assembly, comprising
- (b₁) a second common base comprising a plurality of fusible elements which are each disposed within a pocket disposed within the second
- 15 common base and wherein the first common base and the second common base are substantially identical;
- (b₂) a receptacle contact assembly mounted within the receptacle assembly comprising a plurality of receptacle contacts, each receptacle contact comprising an end which is secured to one of the fusible elements within one of the
- 20 pockets of the second common base;
- (b₃) a receptacle cover that is coupled to the second common base and that mates with the plug cover.
2. The modular mezzanine connector system of claim 1, wherein the plug assembly further comprises a spacer mounted between the plug cover and the first
- 25 common base.
3. The modular mezzanine connector system of claim 1, wherein the receptacle assembly further comprises a spacer mounted between the receptacle cover and the second common base.

Sub
B

09019321.073101

4. The modular mezzanine connector system of claim 1, wherein the plug assembly further comprises a spacer mounted between the plug cover and the first common base and the receptacle assembly further comprises a spacer mounted between the receptacle cover and the second common base.

5. The modular mezzanine connector system of claim 1, wherein the pockets of the first and the second common base are disposed in an interstitial diamond configuration.

6. The modular mezzanine connector system of claim 1, wherein the pockets of the first and the second common base are disposed in an interstitial diamond configuration and the first and the second common base further comprise a recess disposed above each of the pockets through which a contact can be inserted.

7. The modular mezzanine connector system of claim 1, wherein the plurality of plug and receptacle contacts are disposed in an in-line stripline configuration.

8. The modular mezzanine connector system of claim 1, wherein the plurality of plug contacts and receptacle contacts are disposed in a stripline I-Beam configuration.

9. The modular mezzanine connector system of claim 1, further comprising an adaptor which is mated to the plug cover and the receptacle cover.

10. A method of making a modular mezzanine connector system to a desired stack height, comprising:
inserting a plurality of plug contacts into a first common base;
coupling a plug cover to the first common base and if needed to meet the desired stack height attaching a spacer between the plug base and the plug cover;
inserting a plurality of receptacle contacts into a second common base;

Cont
Sub B

000193221.073400

Sub
A7

Cont
Sub B

coupling a receptacle cover to the second common base; and
coupling the plug cover to the receptacle cover and thereby placing
the plurality of plug contacts into electrical communication with the plurality of receptacle
contacts.

11. The method of claim 10, wherein each of the fusible elements
comprise a solder ball.

12. The method of claim 10, wherein inserting the plurality of plug
contacts further comprises inserting the plurality of plug contacts in an in-line stripline
configuration and wherein inserting the plurality of receptacle contacts further comprises
10 inserting the receptacle contacts in an in-line stripline configuration.

13. The method of claim 10, wherein inserting the plurality of plug
contacts further comprises inserting the plurality of plug contacts in a stripline I-Beam
configuration and wherein inserting the plurality of receptacle contacts further comprises
inserting the receptacle contacts in a stripline I-Beam configuration.

14. The method of claim 10, wherein the first and the second common
base each comprise a plurality of pockets that are disposed in an interstitial diamond
configuration.

15. The method of claim 10, wherein coupling the plug cover to the first
common base comprises inserting a plurality of tabs extending from the first common base
20 into a plurality of channels in the plug cover.

16. The method of claim 10, wherein coupling the receptacle cover to
the second common base comprises inserting a plurality of tabs extending from the second
common base into a plurality of channels in the receptacle cover.

17. The method of claim 10, wherein coupling the plug cover to the

Cont
Sub B
5

0991933101
073101
Sub B
5

Cont
Sub B
20

receptacle cover comprises inserting the receptacle cover into an interior of the plug cover in an interference fit.

18. The method of claim 10, wherein coupling the plug cover to the receptacle cover comprises inserting the plurality of plug contacts through slots in the
5 receptacle cover and into contact with a corresponding receptacle contact.

19. A modular mezzanine connector system, comprising:
a plug assembly and a receptacle assembly that mates with the plug
assembly, the plug assembly and the receptacle assembly each comprising a base which
comprises

10 a plurality of recesses;
a plurality of diamond pockets disposed in an interstitial diamond
configuration and there being a pocket beneath each recess so that a contact can extend
through one of the recesses and into one of the pockets;
the plurality of recesses being substantially rectangular in shape so
15 that a contact extending through the recess and into the diamond pocket can receive a
fusible element around a periphery of a portion of the contact extending into the pocket.

20. The modular mezzanine connector system of claim 19, further
comprising a plug cover coupled to the base of the plug assembly and a receptacle cover
20 coupled to the base of the receptacle assembly.

21. The modular mezzanine connector system of claim 19, wherein the
plug assembly further comprises a plurality of plug contacts disposed in an in-line stripline
configuration and the receptacle assembly further comprises a plurality of receptacle
contacts disposed in an in-line stripline configuration.

25 22. The modular mezzanine connector system of claim 19, wherein the
plug assembly further comprises a plurality of plug contacts disposed in a stripline I-Beam
configuration and the receptacle assembly further comprises a plurality of receptacle

Cont
Sub B

09919321.073101

FCI-2552/C2757

- 25 -

PATENT

contacts disposed in a stripline I-Beam configuration.

add
A9

09919321.073101